

WE CLAIM:

1. A solid detergent composition comprising:
 - (a) an effective amount of a cleaning agent to provide soil removal, wherein the cleaning agent comprises at least one of:
 - (i) surfactant;
 - (ii) source of alkalinity;
 - (iii) water conditioning agent; and
 - (iv) enzyme;
 - (b) an effective amount of a binding agent dispersed throughout the solid detergent composition to provide the detergent composition as a solid at room temperature, the binding agent comprising a result of mixing:
 - (i) alkali metal carbonate;
 - (ii) alkali metal bicarbonate; and
 - (iii) water.
2. A solid detergent composition according to claim 1, wherein the binding agent comprises alkali metal sesquicarbonate.
3. A solid detergent composition according to claim 1, wherein at least a portion of said alkali metal bicarbonate is provided as a reaction product of alkali metal carbonate and acid.
4. A solid detergent composition according to claim 1, wherein the composition further comprises a builder comprising sodium tripolyphosphate, sodium nitrilotriacetate, or mixtures thereof.
5. A solid detergent composition according to claim 1, wherein the composition further comprises a builder comprising sodium tripolyphosphate, organic phosphate, amino carboxylate, or mixtures thereof.

6. A solid detergent composition according to claim 1, wherein the cleaning agent comprises a surfactant comprising at least one of a nonionic surfactant, an anionic surfactant, and a mixture thereof.
7. A solid detergent composition according to claim 1, wherein the binding agent has a melting transition temperature of about 110°C to 160°C.
8. A solid detergent composition according to claim 1, wherein the cleaning agent comprises alkali metal carbonate monohydrate and anhydrous alkali metal carbonate.
9. A solid detergent composition according to claim 1, wherein the composition comprises a blend of two or more organophosphonate compounds, a blend of two or more aminoacetate compounds, or a blend of at least one organophosphonate compound and at least one aminoacetate compound.
10. A solid detergent composition according to claim 1, wherein the composition is in the form of a pellet.
11. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a block.
12. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a tablet.
13. A solid detergent composition according to claim 1, wherein the solid composition is in the form of a cast solid.
14. A method for solidifying a detergent composition, the method comprising a step of:

(a) mixing an effective amount of a cleaning agent to provide soil removal and an effective amount of a binding agent to solidify the detergent composition, the cleaning agent comprising at least one of:

- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate; and
- (iii) water.

15. A method according to claim 14, further comprising a step of:

(a) generating alkali metal bicarbonate by reacting alkali metal carbonate with acid.

16. A method according to claim 15, wherein the acid comprises at least one of citric acid, sulfamic acid, adipic acid, succinic acid, and mixtures thereof.

17. A method according to claim 14, wherein the binding agent comprises alkali metal sesquicarbonate.

18. A method according to claim 14, wherein the step of mixing comprises extruding the composition in an extruder.

19. A method according to claim 14, further comprising a step of:

(a) solidifying the mixture of cleaning agent and binding agent.

20. A method according to claim 14, further comprising a step of:

(a) packaging the mixture of cleaning agent and binding agent.

21. A method according to claim 14, wherein the composition comprises a blend of two or more organophosphonate compounds, a blend of two or more aminoacetate compounds, or a blend of at least one organophosphonate compound and at least one aminoacetate compound.

22. A method according to claim 14, further comprising a step of forming the composition into a pellet.

23. A method according to claim 14, further comprising a step of forming the composition into a block.

24. A method according to claim 14, further comprising a step of forming the composition into a tablet.

25. A method according to claim 14, further comprising a step of forming the composition into a cast solid.

26. A solid detergent composition comprising:

(a) an effective amount of a cleaning agent to provide soil removal, wherein the cleaning agent comprises at least one of:

- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

(b) an effective amount of a binding agent dispersed throughout the solid detergent composition to provide the detergent composition as a solid at room temperature, the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate;
- (iii) alkali metal sesquicarbonate; and
- (iv) water.

27. A method for solidifying a detergent composition, the method comprising a step of:

(a) mixing an effective amount of a cleaning agent to provide soil removal and an effective amount of a binding agent to solidify the detergent composition, the cleaning agent comprising at least one of:

- (i) surfactant;
- (ii) source of alkalinity;
- (iii) water conditioning agent; and
- (iv) enzyme;

the binding agent comprising a result of mixing:

- (i) alkali metal carbonate;
- (ii) alkali metal bicarbonate;
- (iii) alkali metal sesquicarbonate; and
- (iv) water.